

Notice of Allowability

Application No.

10/532,992

Examiner

Amy Hsu

Applicant(s)

INAGAKI ET AL.

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/28/2005.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 4/13/06, 4/28/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



LIN YE
SUPERVISORY PATENT EXAMINER

Allowable Subject Matter

1. Claims 1-6 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: The prior art teaches a method of driving a solid state image device comprising a photosensitive region arranged two dimensionally where each cell includes a photodiode, transfer transistor, floating diffusion layer, amplifying transistor, and reset transistor. It is well known in the art that in the above described device, there is a power supply line commonly connected to the drains of the amplifying transistors in order to operate the transistors. It is well known in the art to use a vertical driver circuit to individually drive transfer and reset transistors in the same row. The prior art further teaches vertical signal lines commonly connected to amplifying transistors of the same column and load transistors connected to the vertical signal lines, and further a noise suppression circuit which feeds into horizontal transistors arranged in rows and operated by a horizontal driver circuit. Pulse driving a power supply is well known in the art, further pulsing the reset and transfer transistors during the power supply pulse and pulsing the reset again after the power supply pulse is also taught in the prior art. However, the prior art fails to teach the power supply that is connected specifically to the drains of the amplifying transistor is the exact power supply that is pulse driven in synchronization with the above described reset and transfer transistor pulses. Rather, the closest prior art teaches the reset power supply is pulse driven and not connected to the power supply of the amplifying transistors. More specifically, the prior art fails to

teach the power supply connected to the amplifying transistors pulse driven per horizontal period.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koizumi et al. (US 6650369) teaches an image sensing apparatus with plurality of pixels with a read control unit for reading signals from the amplification unit under control of the voltage level.

Yonemoto (US 6061093) teaches a signal charge in an amplifying type solid state image device of a capacitor load charge system can be detected efficiently.

Abe (US 2006/0001751) teaches a solid state image device capable of simplifying the pixel structure to reduce pixel size.

Koseki et al. (US 2004/0027471) teaches an imaging apparatus including a solid state image device that outputs a captured image signal subjected to CDS processing.

Yonemoto (US 6366321) teaches an amplifier type solid state image device operated in a capacitor load operation system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Hsu whose telephone number is 571-270-3012. The examiner can normally be reached on M-F 8am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy Hsu
Examiner
Art Unit 2622

ARH 1/5/08



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